

**Remarks/Arguments** begin on page 3 of this paper.

REMARKS

Examiner Kelly L. Jerabek is thanked for the thorough examination and search of the subject Patent Application.

All Claims are believed to be in condition for Allowance, and that is so requested.

Reconsideration of rejected claims **1 - 8, 10 – 16, and 26** under 35 U.S.C. 103(a) as being unpatentable over Narayanaswami et al (US pub. 2003/0011684), hereinafter Narayanaswami, in view of Inoue et al. (US 6,273,535), hereinafter Inoue, and further in view of Safai (US 6,642,956) is requested based on amended claims 1, 8 and 26 and on following remarks:

The amended claim **1** of the claimed invention teaches:

1. (currently amended) A method of embedding camera information and image capture related information in a digital form of an image, comprising:
  - receiving information on a first static camera characteristic suitable to enhance image reproduction;
  - receiving information on a first static camera characteristic **suitable to identify a single camera that is the source of the image by embedding unique single camera characteristics;**
  - receiving camera setting information related to a first captured digitized image;
  - generating an encryption key based at least in part on the first static camera characteristic;
  - embedding a watermark in said first captured digitized image, wherein the watermark contains at least a portion of the information on the first static characteristic and at least a portion of the camera setting information related to said first captured digitized image; and
  - encrypting the watermark using the encryption key.

Narayanaswami discloses an image capturing system and method for automatically watermarking a plurality of recorded camera and image parameters such as the location (latitude, longitude and altitude), orientation of the principal axis of the camera, whether the camera is in landscape mode or portrait mode, camera velocity, photographer information, time and date, zoom factor, shutter speed, flash on/off, autofocus distance, lightmeter reading, focal length and aperture into every captured image.

It should be noted that Narayanaswami does neither disclose **“receiving information on a first static camera characteristic suitable to enhance image reproduction”**, nor **“receiving information on a first static camera characteristic suitable to identify a single camera that is the source of the image by embedding unique single camera characteristics”** as the claimed invention does in base claim 1.

Inoue discloses in his **Fig. 1** that image data sensed by a digital camera, input device type unique information and image additional information are stored **separately** in a camera in **three different memories**, while the claimed invention discloses **“A method of embedding camera information and image capture related information in a digital form of an image”**, i.e. the claimed invention stores camera information and image capture information **embedded in an image**.

Inoue discloses (col. 4, lines 5-18):

**“The digital camera 1 stores input-device-unique information unique to the device in a status memory 4. Also, the digital camera 1 photoelectrically converts an image into an electrical signal using a CCD and the like, and holds a plurality of images as digital image data in an image memory 5. At the same time, the digital camera 1**

stores the input states of the individual images held in the image memory 5 and parameters of color processing and the like executed in the digital camera in an image additional information **memory 6** as image additional information 11. Such information is stored in a **RAM** or a nonvolatile **RAM**, or a magnetic storage medium or magnetooptical recording medium."

This means that according to Inoue's invention the printer must be **directly attached** the digital camera because the image data are stored in **three memories** of the camera.

It has to be noted that Inoue does not disclose "receiving information on a first static camera characteristic **suitable to identify a single camera that is the source of the image by embedding unique single camera characteristics**"

Inoue discloses in his **Fig. 2** that the digital input device unique information includes **camera type information**, but no information suitable to identify a **single camera that is the source of the image taken**, as the claimed invention does.

It has to be noted that Inoue does not disclose:

1. "receiving information on a first static camera characteristic **suitable to identify a single camera that is the source of the image by embedding unique single camera characteristics**;
2. "receiving camera setting information related to a first captured digitized image;"
3. "generating an encryption key based at least in part on the first static camera characteristic;"
4. "**embedding a watermark** in said first captured digitized image, wherein the watermark contains at least a portion of the information on the first static characteristic and at least a portion of the camera setting information related to said first captured digitized image; and"
5. "**encrypting the watermark using the encryption key**"

as the claimed invention does in claim 1.

In summary applicant believes that Inoue discloses a non-analogous art because Inoue teaches a camera wherein input device type unique information, the image sensed and additional information are stored in **three different memories** and the printer has to be **directly attached** to the camera, while the key point of the claimed invention is “**embedding** camera information and image capture related information in a digital form of **an image**”. Therefore applicant believes that **any combination** of Narayanaswami with Inoue is **non-obvious**.

Furthermore it should be noted that a combination of the invention of Narayanaswami, disclosing an image capturing system and method for automatically **watermarking** a plurality of recorded camera and image parameters such as the location (latitude, longitude and altitude), orientation of the principal axis of the camera, with the invention of Inoue, disclosing an image forming system, wherein image related information is stored in **three memories** of a camera, is believed be non-obvious because both inventions are so different and because it is known in the art that the amount of information, which can be stored in a watermark is some orders of magnitudes smaller than the amount of information which can be transferred by a direct link as e.g. a cable disclosed by Inoue. Additionally Inoue discloses that a printer has be directly connected to a camera for printing, while the claimed invention discloses systems and methods where the image could be send anywhere for printing. Applicant believes that Inoue discloses **non-analogous art**, which is **non-obvious** to be combined with Narayanaswami.

To achieve the method of claim 1 of the claimed invention, which includes camera information and image capture related information **embedded in a digital image**, comprising “receiving information on a first static camera characteristic **suitable to enhance image reproduction;**” and “receiving information on a first static camera characteristic suitable to identify a **single camera** that is the source of the image by **embedding unique single camera characteristics;**” it would be non-obvious to combine the invention of Narayanaswami disclosing “a system and methods for digital image **verification**” with the invention of Inoue et al. disclosing a system wherein “a digital camera stores input-device-unique information , wherein information is stored in **three memories** of a camera” and “the digital camera is connected to a printer by, e.g., an IEEE1394 I/F”.

Safai discloses in his abstract:

“a digital camera and the methods for using a digital camera. The digital camera includes a programmable processor that provides for flexible operation of the digital camera. The programmable processor also provides the digital camera manufacturer the capability of economically configuring the digital camera as desired. The programmable processor also provides the digital camera user with on demand specialized imaging modes such as the capture mode and the cineview mode.”

It has to be noted that Safai is not “embedding a watermark in said first captured digitized image” as the claimed invention does. The word “**watermark**” does **not even appear** in the description of Safai. Safai discloses a complete different technology for an authenticity stamp than the claimed invention does by applying a watermark in a digital image. Safai discloses (col.15, lines 14-20):

“The digital image to be authentication stamped and the authenticating information are then processed 1010 using for example, a one-way HASH algorithm. The resulting image digest 1015 is encrypted 1020 using a secure key to form an digital authentication stamp 1025 **which is appended to the digital image 1030.**”

It is to be noted that Safai discloses **appending** an authenticity stamp to a digital image while the claimed invention is **embedding a watermark** in a digital image. Both technologies are very different and Applicant believes that Safai discloses a **non-analogous art** in regard of the claimed invention.

Applicant believes that it would be non-obvious to combine the invention of Narayanaswami, disclosing an image capturing system and method for automatically watermarking a plurality of recorded camera and image parameters such as the **location** (latitude, longitude and altitude), **orientation of the principal axis of the camera**, with the invention of Inoue, disclosing an image forming system, wherein image related information is stored in **three memories** of a camera, and “the digital **camera is connected to a printer** by, e.g., an IEEE1394 I/F, and further combine with the invention of Safai, disclosing **appending an authenticity** stamp to a digital image, to achieve the claimed invention because, as outlined above, each of these three invention is using completely different technologies to process this information.

The claimed invention is believed to be patentable over the prior art cited, as it is respectfully suggested that the combination of these various references cannot be made without reference to Applicant's own invention. None of the applied references address or

suggest a "A method of **embedding camera information** and image capture related information in a digital form of an image, comprising:

receiving information on a first static camera characteristic suitable to enhance image reproduction;

receiving information on a first static camera characteristic **suitable to identify a single camera that is the source of the image by embedding unique single camera characteristics**"; ....and

**embedding a watermark** in said first captured digitized image, wherein the watermark contains at least a portion of the information on the first static characteristic and at least a portion of the camera setting information related to said first captured digitized image, while these are important features of the claimed invention. A combination of these references is believed to be non-obvious because the technology by these references is totally different. Applicant has claimed his methods in detail.

Claims **2-7** are dependent claims upon base claim **1**, which is believed to be patentable according the arguments above.

The amended Claim **8** of the claimed invention teaches:

- 8.** (currently amended) A digital camera system, comprising:
- an imager;
  - a first static camera characteristic associated with the imager in regard of enhancing image reproduction;
  - a first static camera characteristic associated with the imager in regard of identifying a single camera that is the source of an image by embedding unique single camera characteristics;
  - a first variable camera setting;



a watermark generator used to embed in the form of a watermark at least one of said first static camera characteristic and said first variable camera setting information in an image captured by the camera; and

a key generator configured to generate an encryption key used to encrypt the watermark.

The same arguments apply for claim 8 as for claim 1 outlined above.

None of the applied or known references address the claimed invention as shown in claim 8 in which a digital camera system comprising... “a first static camera characteristic associated with the imager in regard of enhancing image reproduction”, ...”a first static camera characteristic associated with the imager in regard of identifying a single camera that is the source of an image by embedding unique single camera characteristics” ...and “a watermark generator used to embed in the form of a watermark at least one of said first static camera characteristic and said first variable camera setting information in an image captured by the camera” is described. A combination of these references is believed to be non-obvious because the technology used by each of these references is totally different.

To achieve the camera system of claim 8 of the claimed invention, which includes camera information and image capture related information in association with a digital form of an image and a **watermark generator**, comprising “a first static camera characteristic associated with the imager in regard of enhancing image reproduction” and “a first static camera characteristic associated with the imager in regard of identifying a single camera that is the source of an image by embedding unique single camera characteristics”, it would be non-obvious to combine the invention of Narayanaswami et al. disclosing “a system and methods for digital image verification” with the invention of Inoue et al. disclosing a system

wherein “a digital camera stores input-device-unique information, wherein image related information is stored in **three memories** of a camera and “the **digital camera is connected to a printer** by, e.g., an IEEE1394 I/F” and with the invention of Safai disclosing **appending** an authenticity stamp to a digital image. The claimed invention is believed to be patentable over the prior art cited, as it is respectfully suggested that the combination of these various references cannot be made without reference to Applicant's own invention. Applicant has claimed his camera system in detail.

Claims **10-16** are dependent claims upon base claim **8** which is believed to be patentable according the arguments above.

Claim **26** of the claimed invention teaches:

- 26.** (currently amended) A method of including camera information and image capture related information in association with a digital form of an image, comprising:
- capturing an image;
  - digitizing the image;
  - receiving information on a first static camera characteristic suitable to enhance image reproduction;
    - a first static camera characteristic associated with the imager in regard of identifying a single camera that is the source of an image by embedding unique single camera characteristics;
  - receiving camera setting information related to a first captured digitized image;
  - inserting in a data set associated with the digitized image at least a portion of the information on the first static characteristic; and
  - transmitting the digitized image and the data set to an image processor.

The same arguments apply to claim **26** as outlined above for claims **1** and **8**..

The systems and methods of Claims **1-16** and **26** are believed to be novel and patentable over these various references as outlined above because there is **not sufficient basis for concluding** that the **combination of claimed elements would have been obvious** to one skilled in the art and would yield the claimed invention. We believe that there is **no such basis for a combination**. We therefore request Examiner Kelly L. Jerabek to reconsider the rejection in view of these arguments.

Reconsideration of rejected claim **9** under 35 U.S.C. 103(a) as being unpatentable over Narayanaswami et al (US pub. 2003/0011684), in view of Inoue et al. (US 6,273,535), in view of Safai and further in view of Isnardi et al. US 6,037,984 is requested based on amended claim **8** and on following remarks:

Claim **9** is a dependent claims upon base claim **8** which is believed to be patentable according the arguments above.

Applicants have reviewed the prior art made of record and not relied upon and have discussed their impact on the present invention above.

Allowance of all Claims is requested.

It is requested that should the Examiner not find that the Claims are now allowable that the Examiner call the undersigned at 845-452-5863 to overcome any problems preventing allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'SBA', is written over the printed name.

Stephen B. Ackerman, Reg. No. 37,761